Noise Modeling Results for FSP/SAC Infill Site





Project:	Level II Infill Corr	rectional Facilities Project - FSP/SAC Single Ho	ousing Unit						
Number	Name	Segment Description and Location From	То	Existing	Existing + Project	Δ Existing – Existing + Project	Cumulative	Cumulative +	Δ Cumulative - – Cumulative + Project
Summ	nary of Net Changes								
1	Folsom Lake Crossing	West of E. Natoma Street		70.0	70.1	0.0	72.3	72.3	0.0
2	E. Natoma Street	East of Folsom Lake Crossing		64.4	64.5	0.0	66.4	66.4	0.0
3	E. Natoma Street	Between Prison Road and Hancock Drive		60.8	60.8	0.0	61.8	61.8	0.0
4	Greenback Lane	At the Rainbow Bridge		66.6	66.6	0.0	67.2	67.2	0.0

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Traffic Noise Model Calculations

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Project:	Level II Infill Correctio	nal Facilities Project - FSP/SAC	Single Housing Unit															
				Input												Output		
	Noise Level Descrip																	
	Site Condition																	
	Traffic In	-				Distar												
	Traffic K-Fac	ctor:				Direct	tional											
						Cente												
	Seg	ment Description and Location			Speed	(fee	et) ₄		Traffic D	istributi	on Chara	cteristic	s	Ldn,	Dista	nce to Co	ontour, (f	eet) ₃
Number	Name	From	То	ADT	(mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	(dBA) _{5,6,7}	70 dBA	65 dBA	60 dBA	55 dBA
Existi	ing Conditions																	
1	Folsom Lake Crossing	West of E. Natoma Street		21,623	55	60	133	97.5%	1.5%	1.0%	83.0%	5.0%	12.0%	70.0	90	194	417	899
2	E. Natoma Street	East of Folsom Lake Crossing		24,237	35	71	110	97.5%	1.5%	1.0%	83.0%	5.0%	12.0%	64.4	38	81	175	377
3	E. Natoma Street	Between Prison Road and Han	cock Drive	10,475	35	71	110	97.5%	1.5%	1.0%	83.0%	5.0%	12.0%	60.8	22	46	100	215
4	Greenback Lane	At the Rainbow Bridge		24,232	35	46	144	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	66.6	48	104	223	481
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Traffic Noise Model Calculations

	Noise Model Calculation																			
Project:	Level II Infill Correction																			
				Input										Output						
	Noise Level Descriptor: Ldn																			
	Site Condition	ons: Soft																		
	Traffic In					Distar	nce to													
	Traffic K-Fac	ctor:				Direct	tional													
						Cente	erline,													
	Seg	ment Description and Location			Speed	(fee	et) ₄		Traffic D	istributi	on Chara	cteristic	S	Ldn,	Dista	ance to Co	ontour, (f	eet) ₃		
Number	Name	From	То	ADT	(mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	(dBA) _{5,6,7}	70 dBA	65 dBA	60 dBA	55 dBA		
Existi	ing + Project Conditions																			
1	Folsom Lake Crossing	West of E. Natoma Street		21,767	55	60	133	97.5%	1.5%	1.0%	83.0%	5.0%	12.0%	70.1	90	195	419	903		
2	E. Natoma Street	East of Folsom Lake Crossing		24,303	35	71	110	97.5%	1.5%	1.0%	83.0%	5.0%	12.0%	64.5	38	81	175	378		
3	E. Natoma Street	Between Prison Road and Hai	ncock Drive	10,547	35	71	110	97.5%	1.5%	1.0%	83.0%	5.0%	12.0%	60.8	22	47	100	216		
4	Greenback Lane	At the Rainbow Bridge		24,232	35	46	144	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	66.6	48	104	223	481		
*All modeling	assumes average navement level roa	dways (less than 1.5% grade), constant traffic flo	ow and does not account for shielding of a	ny type or finite	roadway adiu	stments All I	levels are re	norted as A-v	veighted noi	se levels				-						

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Traffic Noise Model Calculations

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Number	Name	From	То	ADT	(mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	(dBA) _{5,6,7}	70 dBA	65 dBA	60 dBA	55 dBA
Cum	ulative Conditions																	
1	Folsom Lake Crossing	West of E. Natoma Street		35,980	55	60	133	97.5%	1.5%	1.0%	83.0%	5.0%	12.0%	72.3	126	272	586	1263
2	E. Natoma Street	East of Folsom Lake Crossing		38,330	35	71	110	97.5%	1.5%	1.0%	83.0%	5.0%	12.0%	66.4	51	110	237	512
3	E. Natoma Street	Between Prison Road and Han	cock Drive	13,030	35	71	110	97.5%	1.5%	1.0%	83.0%	5.0%	12.0%	61.8	25	54	116	249
4	Greenback Lane	At the Rainbow Bridge		27,780	35	46	144	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	67.2	53	113	245	527
*All modeling	assumes average navement level rea	adways (less than 1.5% grade), constant traffic flo	wand does not assount for shielding of an	u tuna ar finita	roadway adiy	stmonts All I	lavale are re	anartad as A .	uniahtad nai	sa lavals								

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Traffic Noise Model Calculations

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	Traffic Inp					Distar												
	Traffic K-Fac	tor:				Direct												
						Cente												
	Seg	ment Description and Location			Speed	(fee	et) ₄		Traffic D	istributi	on Chara	cteristic	s	Ldn,	Dista	ance to Co	ontour, (1	feet)₃
Number	Name	From	То	ADT	(mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	(dBA) _{5,6,7}	70 dBA	65 dBA	60 dBA	55 dBA
Cum	ulative + Project Condition	ons																
1	Folsom Lake Crossing	West of E. Natoma Street		36,124	55	60	133	97.5%	1.5%	1.0%	83.0%	5.0%	12.0%	72.3	127	273	588	1266
2	E. Natoma Street	East of Folsom Lake Crossing		38,396	35	71	110	97.5%	1.5%	1.0%	83.0%	5.0%	12.0%	66.4	51	110	238	512
3	E. Natoma Street	Between Prison Road and Han	cock Drive	13,102	35	71	110	97.5%	1.5%	1.0%	83.0%	5.0%	12.0%	61.8	25	54	116	250
4	Greenback Lane	At the Rainbow Bridge		27,780	35	46	144	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	67.2	53	113	245	527
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Traffic Noise Modeling Calculations - References

<u>Citation</u>	<u>Reference</u>
1	Caltrans Technical Noise Supplement. 2009 (November). Table (5-11), Pg 5-60.
2	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-26), Pg 5-60.
3	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-16), Pg 2-32.
4	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-11), Pg 5-47, 48.
5	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-26), Pg 2-55, 56.
6	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-27), Pg 2-57.
7	Caltrans Technical Noise Supplement. 2009 (November). Pg 2-53.
8	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-7), Pg 5-45.
9	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-8), Pg 5-45.
10	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-9), Pg 5-45.
11	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-13), Pg 5-49.
12	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-14), Pg 5-49.
13	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (16), Pg 67
14	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (20), Pg 69
15	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (18), Pg 69